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ABSTRACT

This report is a detailed budget analysis of projected costs of three school calendars, including a 45-15 extended year operation, for an elementary school in Brick Town, New Jersey. The purpose of the report is to estimate the fiscal effects of the 45-15 extended school year operation to determine whether such a method of operation is more cost effective than the conventional school calendar method of operation. Cost estimates for the conventional 180 day school calendar are based on capacity enrollment and actual current enrollment. Results indicate a cost benefit of $17.26 per pupil projected for the extended school year. In addition, there is a $1.5 million potential saving in capital outlays under the extended school year plan. (Author/DN)

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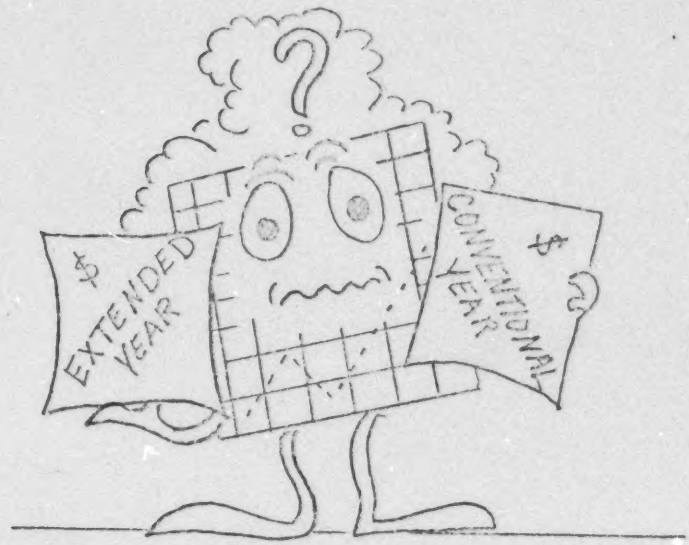
AN ANALYSIS OF DIFFERENCES IN COSTS AMONG THREE SCHOOL YEAR SCHEDULES FOR LANES MILL ELEMENTARY SCHOOL



Presented to:

Board of Education

Brick Township Schools

Dr. C. Stephen Raciti, Supt.

January 21, 1975

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Part I

Overview of Costs Related to Operating Lanes Mill Elementary School on three Separate School Year Schedules

Definition of Terms

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The following study represents a cost benefit analysis of the operational costs of Lanes Mill Elementary School, Brick Township, New Jersey. The study uses three sets of data in the analysis. The three sets of data are defined as follows:

Hypothetical - these figures represent the operational costs of Lanes Mill Elementary School with a student enrollment of 640 (capacity) on a conventional school calendar, 180 days, September to June.

Actual - these figures represent the operational costs of Lanes Mill Elementary School with a student enrollment of 737 (668 full-time equivalents considering 130 K and 6 others on a half-time basis) on a conventional school year calendar, 180 days, September to June.

Projected - these figures represent the operational costs of Lanes Mill Elementary School with a student enrollment of 850 full-time students on a 45/15 extended school year calendar, 240 days, June to June.

All figures are based on actual operational expenditures for Lanes Mill Elementary School for the conventionally scheduled school year 1973-74. The treatment of the data in the projected or extended school year assumes a reasonable balance among the four groups of students as they are distributed throughout the school year. Each group should contain approximately 215 students. Whenever the school is in session, there should be three groups or approximately 640 students enrolled.

Conventional Calendar
640/185 days
(Hypothetical)

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		Cost	Per Pupil Expenditure
A.	Principal (1)	27,342.00	42.72
B.	Secretary (1)	6,301.00	9.85
C.	Clrm. Teachers (22 @ 13,800.00)	303,600.00	474.38
D.	Librarian (1)	15,270.00	23.86
	Art (1)	9,700.00	15.16
	Phys. Ed. (1)	8,800.00	13.75
	Music (1 1/10) (9700. + 880.)	10,580.00	16.53
	Speech (3/5) (12,525.)	7,515.00	11.74
	Title I Instr. (1)	18,545.00	28.98
	Nurse (1)	8,642.00	13.50
	Rem. Reading (1/10)	1,787.00	2.79
E.	Custodians (3) (@9,083.00)	27,249.00	42.58
	Matron (6hr. 10 mo.)	3,972.00	6.21
	Food Serv. Emp. (16 x 185) (13 x 185)	5,365.00	8.38
F.	Hospitalization		
	Married (35 x 60% x 402.00)	8,442.00	13.19
	Single (35 x 40% x 147.00)	2,058.00	3.22
	Pension (3.5% x 454,668)	15,913.00	24.86
	F.I.C.A. (5.85 x 414,911)	24,272.00	37.93
G.	Textbooks (640 x $12.00)	7,680.00	12.00
	Lib. Books + Ref. Materials (640 x $4.00)	2,560.00	4.00
	Newspapers + Periodicals (640 x $1.00)	640.00	1.00
	AVA Material (640 x $4.00)	2,560.00	4.00
	Lib. other Exp. (640 x .50)	320.00	.50
	Misc. Supp. for Instr. (640 x $2.00)	1,280.00	2.00
	Misc. Exp . for Instr. (640 x $1.00)	640.00	1.00
H.	Maintenance	15,961.00	24.94
I.	Custodial Supplies	2,362.00	3.69
J.	Utilities		
	Gas	3,131.00	4.89
	Electric	7,007.00	10.95
	Telephone	730.00	1.14
K.	Transportation 14 buses	36,608.00	57.20
	Totals:	$586,832.00	$916.94

Existing Calendar
668/185 days
(Actual)

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		Cost	Per Pupil Expenditure
A.	Principal (1)	27,342.00	40.93
B.	Secretary (1)	6,301.00	9.43
C.	Clrm. Teachers (23 @ 13,800.00)	317,400.00	475.15
D.	Librarian (1)	15,270.00	22.86
	Art (1)	9,700.00	14.52
	Phys. Ed. (1)	8,800.00	13.17
	Music (1 1/10) (9700. + 880.)	10,580.00	15.84
	Speech (3/5) (12,525.00)	7,515.00	11.25
	Title I Instr. (1)	18,545.00	27.76
	Nurse (1)	8,642.00	12.94
	Rem. Read. (1/10)	1,787.00	2.68
E.	Custodians (3 @ 9083.00)	27,249.00	40.79
	Matron (6 hr. 10 mo.)	3,972.00	5.95
	Food Serv. Emp. (16 x 185) (13 x 185)	5,365.00	8.03
F.	Hospitalization		
	Married (36 x 60% x 402.00)	8,844.00	13.24
	Single (36 x 40% x 147.00)	2,058.00	3.08
	Pension (3.5% x 468,468)	16,396.00	24.54
	F.I.C.A. (5.85% x 427,911)	25,033.00	37.47
G.	Textbooks (668 x 12.00)	8,016.00	12.00
	Lib. Bks. + Ref. Materials (668 x $4.00)	2,672.00	4.00
	Newspapers + Periodicals (668 x $1.00)	668.00	1.00
	AVA Materials (668 x $4.00)	2,672.00	4.00
	Lib. other exp. (668 x .50)	334.00	.50
	Misc. Supp. for Instr. (668 x $2.00)	1,336.00	2.00
	Misc. Exp . for Instr. (668 x $1.00)	668.00	1.00
H.	Maintenance	15,961.00	23.69
I.	Custodial Supplies	2,462.00	3.69
J.	Utilities		
	Gas	3,131.00	4.69
	Electric	7,007.00	10.49
	Telephone	763.00	1.14
K.	Transportation	38,210.00	57.20
	Totals:	$604,699.00	$905.03

ESY Calendar
850/240 days
(Projected)

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	Cost	Per Pupil Expenditure
A. Principal (1)	27,342.00	32.17
B. Secretary (1)	9,951.00	11.71
C. Clrm. Teacher (29 @ 13,800.00)	400,200.00	470.82
D. Librarian (1)	18,324.00	21.56
Art (1)	11,640.00	13.69
Phys. Ed. (1)	10,560.00	12.42
Music (1 1/5) (11,640.00 + 1,760.00)	13,400.00	15.76
Speech (1)	12,525.00	14.73
Title I Instr. (1)	22,254.00	26.18
Nurse (1)	10,370.00	12.20
Rem. Read. (1/5)	3,574.00	4.20
E. Custodians (4 @ 9,083.00)	36,332.00	42.74
Matron (6 hr. 12mo.)	4,766.00	5.61
Food Serv. Emp. (16 x 22.50 x 60) (13 x 18.75 x 60)	7,840.00	9.22
F. Hospitalization		
Married: (44 x 60% x 402.00)	10,452.00	12.30
Single: (44 x 40% x 147.00)	2,646.00	3.11
Pension (3.5% x 589,078)	20,618.00	24.26
F.I.C.A. (5.85% x 536,558)	31,389.00	36.93
G. Textbooks (640 x 12.00)	7,680.00	9.04
Lib. Books + Ref. Materials (640 x 4.00)	2,560.00	3.01
Newspapers + Periodicals (640 x 1.00)	640.00	.75
AVA Materials (850 x 4.00)	3,400.00	4.00
Lib. other exp. (850 x .50)	425.00	.50
Misc. Supp. for Instr. (850 x 2.00)	1,700.00	2.00
Misc. Exp . for Instr. (850 x 1.00)	850.00	1.00
H. Maintenance	15,961.00	18.78
I. Custodial Supplies	3,137.00	3.69
J. Utilities		
Gas	3,131.00	3.68
Electric	8,000.00	9.41
Telephone	827.00	.97
K. Transportation		
640 x 57.20	36,608.00	
640 x 151.59	15,523.00	61.33
1/6	52,131.00	887.77
Totals:	$754,625.00	

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	Hypothetical 640/185		Actual 668/185		Projected 850/240		Benefit ESY -
	Cost	Per Pupil	Cost	Per Pupil	Cost	Per Pupil	Diff: between Actual/Projected Per Pupil Cost
Item A Administration	$ 27,342	$ 42.72	$ 27,342	$ 40.93	$ 27,342	$ 32.17	$ 8.76
Item B Secretarial	6,301	9.85	6,301	9.43	9,951	11.71	-2.31
Item C Classroom Teachers	303,600	474.38	317,400	475.15	400,200	470.82	4.33
Item D Support Staff	80,839	126.31	80,839	121.02	102,647	120.74	0.28
Item E General Serv.	36,586	57.17	36,586	54.77	48,939	57.57	-2.80
Item F Fringe Benefits	50,685	79.20	52,331	78.33	65,105	76.60	1.73
Item G Instructional Supplies	15,680	24.50	16,366	24.50	17,255	20.30	4.20
Item H Maintenance	15,961	24.94	15,961	23.69	15,961	18.78	4.91
Item I Custodial Supplies	2,362	3.69	2,462	3.69	3,137	3.69	0.00
Item J Utilities	10,868	16.98	10,901	16.32	11,958	14.06	2.26
Item K Transportation	36,608	57.20	38,210	57.20	52,523	61.33	-4.13
TOTALS	586,832	916.94	604,699	905.03	754,625	887.77	17.26

Summary Chart of Costs

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The following represents a break-down of the expenditures within the three sets of data hypothetical, actual and projected according to the following itemization:

- A - Administration
  - Principal
- B - Secretarial
- C - Classroom teachers
- D - Support Staff
  - Librarian
  - Art
  - Physical Education
  - Music
  - Speech
  - Title I Instructor
  - Nurse
  - Remedial Reading
- E - General Services
  - Custodians
  - Matron
  - Food Service
- F - Fringe Benefits
  - Hospitalization
    - Married
    - Single
  - Pension
  - F.I.C.A.
- G - Instructional Supplies
  - Textbooks
  - Library Books
  - Newspapers + Periodicals
  - Audio Visual Materials
  - Library - other expenses
  - Misc. supplies for Instructors
  - Misc. supplies for Instructors
- H - Maintenance
- I - Custodial Supplies
- J - Utilities
  - Gas
  - Electricity
  - Telephone
- K - Transportation

◁ Indicates cost benefit or loss between the current (actual) expenditures of the conventional school year opposed to the projected expenditures of the extended school year.

ITEM A - Administration

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Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1	27,342	42.72	10.55
Actual 668/185	1	27,342	40.93	8.76 ◁
Projected 850/240	1	27,342	32.17	-----

Commentary

The cost of the building principal ($27,342.00) is identified as being the same on the conventional as on the extended school year calendar because the principal is employed currently under a twelve month contract. Since there is a potential of his services being extended over 1/3 more students and staff, or cost benefit of $8.76 per pupil is projected in the extended school year over the actual (current) administrative costs.

Alternatives to accepting this benefit through revised enrollment would be either; a) increase the present principal's salary, or b) use the benefit to employ a half-time principal (8.76 x 850 = 7,446). Alternative "a" erodes some of benefit; alternative "b" could absorb the total benefit.

◁ Cost benefit

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ITEM B - Secretarial

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1	6301	9.85	-1.86
Actual 668/185	1	6301	9.43	-2.28 ◁
Projected 850/240	1.5	9951	11.71	----

Commentary

Although a cost benefit could be realized by maintaining the position at one, it appeared prudent to allow for the provision of an additional .5 secretarial position in the extended school year to offset the increase in students and staff over the entire year. It is true that there would be no more students or staff in the building at any one time, however, the fact that the student body and the staff would change every three weeks indicates that there would be more clerical duties than in the conventional school year.

If the current status of one secretary is maintained, a cost benefit of approximately 2.00 can be realized.

◁ Cost benefit

ITEM C - Instructional Staff

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Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	22	303,600	474.38	3.56
Actual 668/185	23	317,400	475.15	4.33 ◁
Projected 850/240	29	400,200	470.82	----

Commentary

The cost benefit projected here is dependent on extending the present ten month contract offered to teachers to a twelve month contract. On that basis, the instructional staff would be providing instructional services to 1/3 more students with an increase in salary equivalent to 12/10 (1 1/6) of their regular salary. Obviously, this cost benefit would be eroded (if not eliminated entirely) if the contractual agreement between the teacher and the school district were altered to reflect a per diem rate. In that situation, there would be little or no difference in the per pupil expenditure for staff salaries between the conventional school year calendar and the extended school year calendar.

◁ Cost benefit

ITEM D - Support Staff

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Librarian:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1	15,270	23.86	2.30
Actual 668/185	1	15,270	22.86	1.30 ◁
Projected 850/240	1	18,324	21.56	----

Art:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1	9,700	15.16	1.47
Actual 668/185	1	9,700	14.52	0.83 ◁
Projected 850/240	1	11,640	13.69	----

Physical Education:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1	8,800	13.75	1.33
Actual 668/185	1	8,800	13.17	0.75 ◁
Projected 850/240	1	10,560	12.42	----

Music:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1.1	10,580	16.53	0.77
Actual 668/185	1.1	10,580	15.84	0.08 ◁
Projected 850/240	1.2	13,400	15.76	----

◁ Cost benefit

ITEM D - Support Staff

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Speech:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	.6	7,515	11.74	-2.99
Actual 668/185	.6	7,515	11.25	-3.48 ◁
Projected 850/240	1	12,525	14.73	----

Title I Instructor:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1	18,545	28.98	2.22
Actual 668/185	1	18,545	27.76	1.58 ◁
Projected 850/240	1	22,254	26.18	----

Nurse:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1	8,642	13.50	1.30
Actual 668/185	1	8,642	12.94	0.74 ◁
Projected 850/240	1	10,370	12.20	----

Remedial Reading:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	.1	1,787	2.79	-1.41
Actual 668/185	.1	1,787	2.68	-1.52 ◁
Projected 850/240	.2	3,574	4.20	----

◁ Cost benefit

ITEM D - Support Services

Commentary

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As with the instructional staff, the cost benefit projected here is a result of the differences between the ten month contract and the twelve month contract and the number of students receiving the services of the instructional support staff. Similarly, if the salaries of the support staff were pro-rated on a per diem basis; the cost benefit would be negated.

The losses that appear to occur in the Speech and Remedial Reading areas are a result of doubling the services rendered while increasing the enrollment by only 1/3; this is an option, it is not a necessity. If each of these services were increased 1/3 (1/3 of 3/5 = 1/5 for Speech; 1/3 of 1/10 = 1/30 for Remedial Reading), there would be a cost benefit for the extended school year calendar of $0.64 for Speech and $0.51 for Remedial Reading.

ITEM E - General Services

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Custodial:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	3	27,249	42.58	-0.16
Actual 668/185	3	27,249	40.79	-1.95 ◁
Projected 850/240	4	36,332	42.74	----

Commentary

It should be obvious that the reason that a cost benefit is not realized here is because an additional full-time custodian is projected as a need. Although research studies of facilities related to year round use are in general agreement that year round use of the facility has little effect on its longevity, it appears that some concern must be extended in the area of floor maintenance. It appears to be logical to attempt to maintain the floors on a continuing basis rather than at pre-determined intervals during the year. The additional custodian would serve that purpose.

Matron:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	.8	3,972	6.21	0.60
Actual 668/185	.8	3,972	5.95	0.34 ◁
Projected 850/240	1	4,766	5.61	----

Commentary

At the present time, the matron is employed for six hours a day for ten months. Since the matron would be needed six hours a day for twelve months

◁ Cost benefit

ITEM E - General Services

Commentary (cont. on Matron)

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under the extended school year calendar, the costs would be increased but a cost benefit would still be realized.

Food Service:

Calendar	No.	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	1	5,365	8.38	0.84
Actual 668/185	1	5,365	8.03	1.19 ◁
Projected 850/240	1.5	7,840	9.22	----

Commentary

The above figures reflect the employment of two food service employees to operate the cafeteria throughout the year. The increase in the projected extended school year calendar is related to the necessity of offering the summer employment to employees according to seniority. It is anticipated that employees with considerable longevity will apply for these two positions, thus, the maximum rate is projected. Furthermore, an additional hour (from 4 hours to 5 hours per day) per employee is projected during the summer months because only this cafeteria will be in operation, i.e., these employees would not have the support of the central food preparation service.

◁ Cost benefit

ITEM F - Fringe Benefits

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Hospitalization: (Married)

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(35 x .60 x 402.)	8,442	13.19	0.89
Actual 668/185	(36 x .60 x 402.)	8,844	13.24	0.94 ◄
Projected 850/240	(44 x .60 x 402.)	10,452	12.30	----

(Single)

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(35 x .40 x 147.)	2.058	3.22	0.11
Actual 668/185	(36 x .40 x 147.)	2,058	3.08	-0.03 ◄
Projected 850/240	(44 x .40 x 147.)	2,646	3.11	----

Commentary

Because the cost of the hospital insurance covers the entire year, any additional use of staff with such coverage results in a cost benefit. Therefore, the more staff who elect the longer contract (full year) the greater the cost benefit. As may be observed, there is a significant difference between married and single coverage but this factor exists on all calendars.

◄ Cost benefit

ITEM F - Fringe Benefits

Pension:

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Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(3.5% x 454,668)	15,913	24.86	0.60
Actual 668/185	(3.5% x 468,468)	16,396	24.54	0.28 ◁
Projected 850/240	(3.5% x 589,078)	20,618	24.26	----

F.I.C.A.:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(5.85% x 414,911)	24,272	37.93	1.00
Actual 668/185	(5.85% x 427,911)	25,033	37.47	0.54 ◁
Projected 850/240	(5.85% x 536,558)	31,389	36.93	----

Commentary

The small cost benefit appearing under pension expenditures is a result of the extended use of employees currently employed under twelve contracts.

The cost benefit shown under F.I.C.A. is a result of the extended use of employees after they have received $13,000 in compensation (teachers avg. 13,800).

◁ Cost benefit

ITEM G - Instructional Supplies

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Textbooks:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(640 x $12)	7,680	12.00	2.96
Actual 668/185	(668 x $12)	8,016	12.00	2.96 ◁
Projected 850/240	(640 x $12)	7,680	9.04	----

Library Books:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(640 x $4)	2,560	4.00	0.99
Actual 668/185	(668 x $4)	2,672	4.00	0.99 ◁
Projected 850/240	(640 x $4)	2,560	3.01	----

Newspapers & Periodicals:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(640 x $1)	640	1.00	0.25
Actual 668/185	(668 x $1)	668	1.00	0.25 ◁
Projected 850/240	(640 x $1)	640	.75	----

Commentary

As may be readily observed, the above cost benefits are a result of calculations for the extended school year calendar based on an enrollment of 640 pupils. Although these benefits can be realized and justified, the option of providing instructional supplies on a total annual enrollment basis (850) to the school(s) in an extended school year is available. Any supplies purchased beyond the 640 enrolled figure for the extended school year would erode the cost benefits.

◁ Cost benefit

ITEM G - Instructional Supplies

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AVA Materials:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(640 x $4)	2,560	4.00	0.00
Actual 668/185	(668 x $4)	2,672	4.00	0.00 ◁
Projected 850/240	(850 x $4)	3,400	4.00	----

Library Other Expenses:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(640 x .50)	320	0.50	0.00
Actual 668/185	(668 x .50)	334	0.50	0.00 ◁
Projected 850/240	(850 x .50)	425	0.50	----

Misc. Supplies for Instruction:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(640 x $2)	1,280	2.00	0.00
Actual 668/185	(668 x $2)	1,336	2.00	0.00 ◁
Projected 850/240	(850 x $2)	1,700	2.00	----

Misc. Expenses for Instruction:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	(640 x $1)	640	1.00	0.00
Actual 668/185	(668 x $1)	668	1.00	0.00 ◁
Projected 850/240	(850 x $1)	850	1.00	----

◁ Cost benefit

ITEM G - Instructional Supplies

Commentary

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The cost of the four above items was held constant, i.e., all costs were increased in proportion to the enrollment. The major reason for this was because the items were considered to be either expendable or in need of replenishment. A cost benefit could be realized in audio-visual materials if it were acceptable to supply only those materials necessary for 640 students. If this proved to be acceptable, a cost benefit of approximately $1.00 could be realized in audio-visual materials. The other areas do not appear susceptible to this procedure.

ITEM H - Maintenance

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Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 240/185	73/74 Expenditure	15,961	24.94	6.16
Actual 668/185	73/74 Expenditure	15,961	23.89	5.11 ◁
Projected 850/240	73/74 Expenditure	15,961	18.78	----

Commentary

The above figures reflect the logical assumption that facility maintenance would remain fairly constant regardless of the number of days that the building is in service throughout any given year. Increased costs related to custodial maintenance activities are considered under Item E (Custodian-Matron) and Item I (Custodial Supplies). If it is deemed desirable not to attempt to realize this benefit, approximately $4,500 could be added to the extended school year calendar. This would bring the per pupil expenditure to the level of the current or actual per pupil expenditure.

◁ Cost benefit

ITEM I - Custodial Supplies

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Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	73/74 data	2,362	3.69	0.00
Actual 668/185	73/74 data	2,462	3.69	0.00 ◄
Projected 850/240	73/74 data	3,137	3.69	----

Commentary

As with the expendable instructional supplies, the cost of the custodial supplies was held constant. Therefore, no difference is found between the three sets of data.

◄ Cost benefit

ITEM J - Utilities

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Gas:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	73/74 data	3,131	4.89	1.21
Actual 668/185	73/74 data	3,131	4.69	1.01 ◁
Projected 850/240	73/74 data	3,131	3.68	----

Commentary

As may be observed on the polygraph on page 33, the expenditure for gas for July and August is the minimal rate (4.50, 73/74). It is likely that this rate would be increased primarily through the use of the cafeteria during these months, although lunches served during these months are apt to require less cooking than lunches served during colder months. Approximately twelve (12) cents would be deducted from the cost benefit as shown for each additional one hundred (100) dollars expended for gas.

◁ Cost benefit

ITEM J - Utilities

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Electricity:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	73/74 data	7,007	10.95	1.54
Actual 668/185	73/74 data	7,007	10.49	1.08 ◁
Projected 850/240	73/74 data	8,000	9.41	----

Commentary

Even though approximately one thousand (1000) dollars was added to the extended school year calendar to satisfy the cost of cooling the facility during the summer months, a cost benefit is apparent. The additional cost in electricity is more than offset by the increased enrollment. An additional nine-hundred (900) dollars could be budgeted without increasing the per pupil expenditure.

Telephone:

Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	73/74 data	730	1.14	0.17
Actual 668/185	73/74 data	763	1.14	0.17 ◁
Projected 850/240	73/74 data	827	.97	----

Commentary

Although the per pupil cost for telephone service was held constant between the two conventional school years, an amount equal to the monthly average (64.00) was added to the extended school year cost. Even so, a minimal cost benefit is projected.

◁ Cost benefit

ITEM K - Transportation and Related Services

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Calendar	Source	Cost	Per Pupil Expenditure	Benefit ESY
Hypothetical 640/185	73/74 data	36,608	57.20	-4.13
Actual 668/185	73/74 data	38,210	57.20	-4.13 ◁
Projected 850/240	73/74 data	52,131	61.33	----

Commentary

The per pupil cost of transportation and related services was held constant between the two conventional school years. This was not deemed advisable for the extended school year because of the necessity of offering the routes to those drivers highest in seniority and the compulsion to pay then a full day's pay for a limited number of runs. The method used to calculate the cost for the extended school year is as follows:

Conventional year costs 640 students x $57.20 = 36,608.00
Summer extension 640 students x 151.59 divided by 1/6 = 15,523.00

total = $52,131.00

The $57.20 per pupil cost is a figure used by the transportation office. The $151.59 per pupil cost was calculated by determining the number of busses, (640 students divided by 45 = 14 busses) then multiplying the result by the number of miles travelled daily (14 x 35 mi. = 490), then multiplying the result by $1.10 operational cost per mile (490 x 1.10 = 539), then multiplying by 180 days (180 x 539 - $97,020.00), and finally dividing this total (97,020) by 1/6 (2 months).

The above figures do not reflect the fact that fourteen (14) busses are being used for twelve months in contrast to nineteen (19) busses being used for nine and half months. It should be noted that research by the McFadden Corporation of Detroit, Michigan indicates that using busses on a twelve month basis does not increase the depreciation to a significant degree; age is the significant factor. *

◁Cost benefit

* Person-O-Metrics, Inc., Dearborn Hgts MI

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Summary

A cost benefit of $17.26 per pupil has been projected for the extended school year expenditures when compared to actual expenditures during a conventional school year at Lanes Mill Elementary School. This cost benefit is related to operational costs only, capital outlay benefits are considered separately. The cost benefit is contingent on achieving a reasonable balance in scheduling the students over four calendars following the 45/15 design. Furthermore, the cost benefit may be eroded by selecting or rejecting various options that have an influence on the cost benefit.

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Part II

Overview of Costs Related

to Capital Outlay

and the

Extended School Year

A Sample of Current Construction Costs in

Brick Township

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Statistics on the new municipal building being constructed in Brick Township as of January 17, 1974 are as follows:

53,792 sq. ft.	(includes two levels)
$2,371,074.00	Cost of Municipal Building
42.20	Cost per sq. ft.
85,000.00	Cost of Site (41 acres)
2,073.00	Cost per acre

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Capital Outlay

Facility Construction

Cost of elementary school to accommodate 640 students:*

Building costs:

$2,913.00 = cost per pupil
x640 = students
$1,864,320.00

Equipment Cost:

$320.00 = cost per pupil
x640 = students
$204,800.00

Total Cost:

$1,864,320.00
204,800.00
$2,069,120.00
2,379,488.00 = est. interest on 30 year bond issue
Total: $4,448,608.00

Potential Cost Benefit:

Extended school year accomodates 1/3 (213) more students per building therefore the cost benefit in facility construction can be estimated accordingly:

1/3 x $1,864,320 = $621,440.00 on buildings
1/3 x $2,069,120 = $689,707.00 on buildings and equipment
1/3 x $4,448,608 = $1,482,869.00 on building, equipment and interest

An alternative would be to construct additional classrooms on the present site, Should that alternative be exercised, the cost of ten or more classrooms at a rennovation cost per sq. ft. must be calculated. As a general rule, rennovation costs per sq. ft. exceed those of new construction. The $689,707.00 calculated for 1/3 of a building and equipment may not be unrealistic as a projection for rennovation.

* Source: New Jersey State Department of Education, Bureau of Facility Planning Services; the figure represents a school facility of approximately 55,000 sq. ft. at 33.75 cost per sq. ft. Figures do not reflect the cost of a site.

Busses

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Because it is possible under the 45/15 extended school year calendar to transport 850 students in the same number of busses that is required to transport 640 students a cost benefit can be estimated accordingly:

$12,500.00 = per bus standard equipment *
x5 = number of fewer busses needed
$62,500.00 = est. cost benefit

850 divided by 45 = 19 = number of busses needed** (conventional school year)
650 divided by 45 = 14 = number of busses needed (extended school year)
5 = number of fewer busses needed

* Source: New Jersey State Department of Education, Bureau of Pupil Transportation.
** 45 is the number of students used to calculate the number of busses needed. Source of figure: Brick Township Schools Office of Trans.

Summary/Capital Outlay
Cost Benefit

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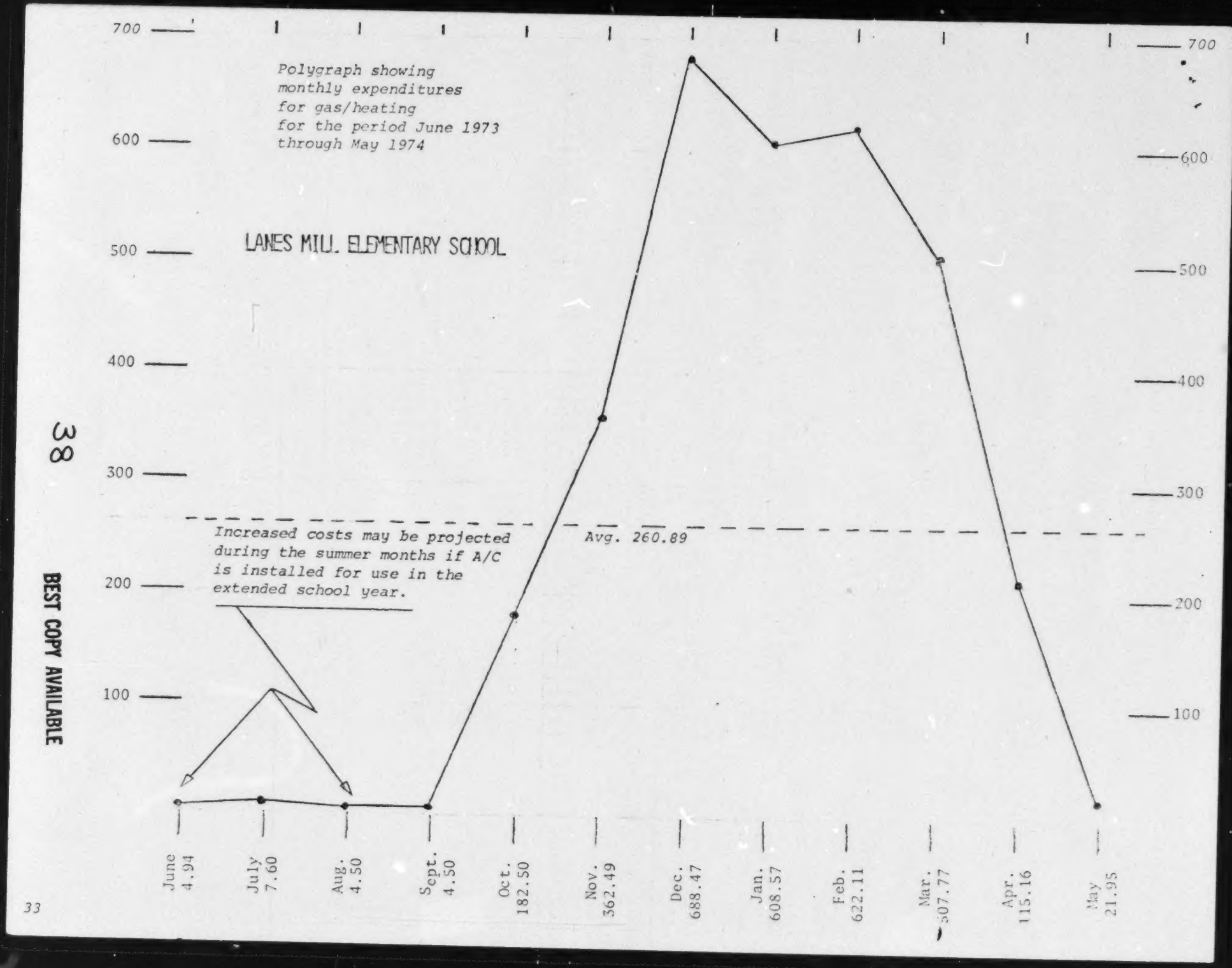
Item		Benefit ESY
Building		$ 621,440.00
Equipment		68,267.00
Interest		793,162.00
Busses		62,500.00
	Total:	$1,545,369.99

Note: Site acquisitions costs would have to be added to the above figures, i.e., 1/3 of total site and site improvement costs.

Start-Up Expenditures

Installation of air-conditioning	$100,000.00 est.
Replacement of compressor in school cafeteria refrigerator	400.00 est.

APPENDIX



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LANES MILL ELEMENTARY SCHOOL

Polygraph showing monthly expenditures for electricity for the period being June 1973 through May 1974

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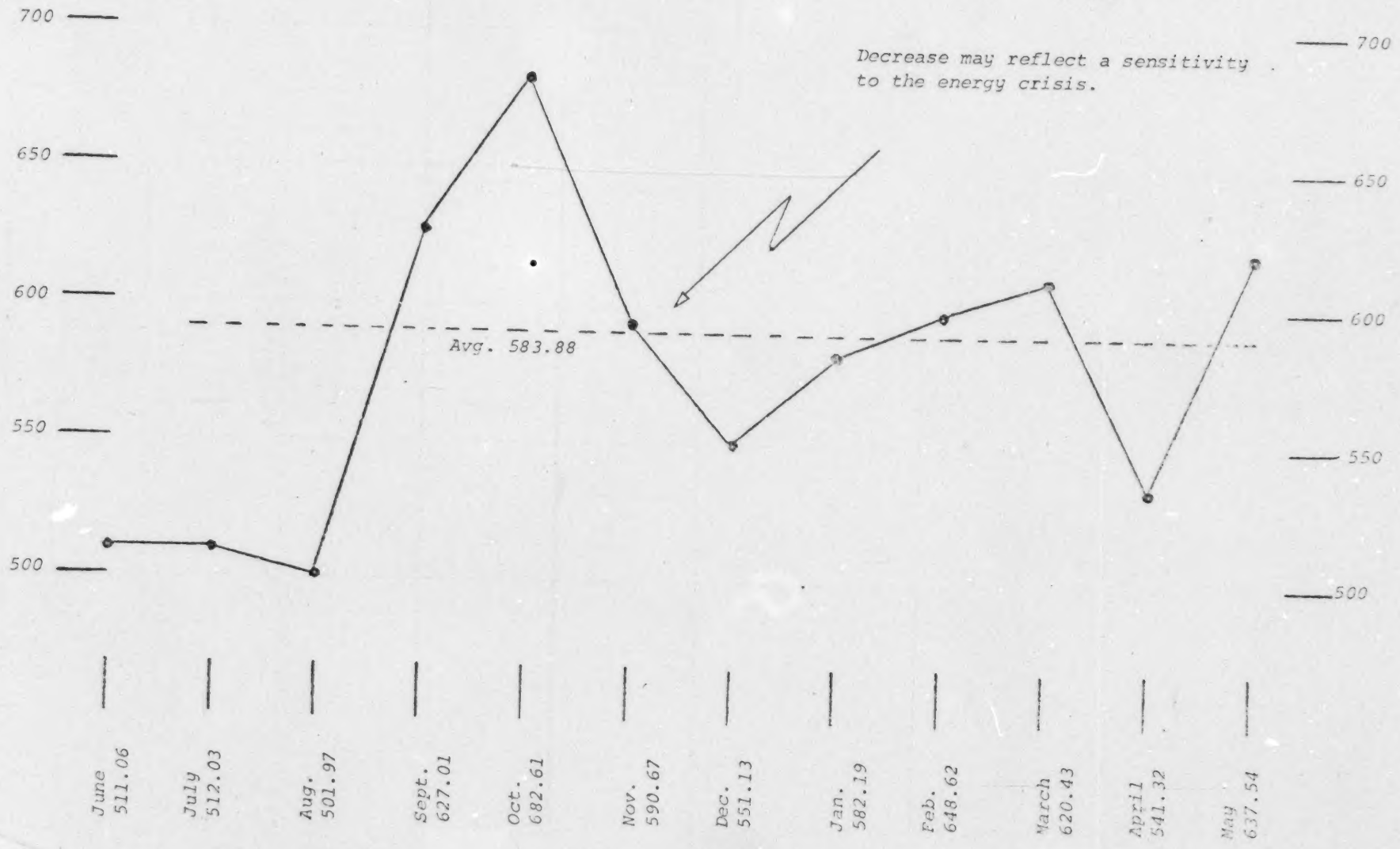

LANES MILL ELEMENTARY SCHOOL